



Contrary to the popular opinion in this respect, these enormous fields of ice do not lower the temperature of the Atlantic Slope, which in its entire extent, from the Canadian Maritime Provinces to Florida, has experienced during May and June, mean temperatures decidedly above the normal.

*High Tides.*—Galveston, Tex., 12th, large portion of east part of island submerged. Cape Lookout, N. C., 16th, 17th. Ft. Macon, N. C., 18th. Portsmouth, N. C., 15th to 17th.

## TEMPERATURE OF WATER.

The *temperature of water* as observed in rivers and harbors at Signal Service stations, with average depth at which observations were taken, is given in the table on the left hand side of chart No. II. At the following stations, the thermometers being broken, prevented observations on the dates given: Chicago, 11th to 17th; Duluth, 6th to 16th; Savanuah, 2nd to 25th. The report from Punta Rasa has not been received.

## ATMOSPHERIC ELECTRICITY.

*Thunder-storms.*—New England, 1st, 2d, 6th, 7th, 11th, 12th, 13th, 14th, 16th, 17th, 21st to 30th. Middle Atlantic States, 1st to 3d, 6th to 14th, 16th, 17th, 21st to 30th. South Atlantic States, 1st, 2d, 3d, 6th, 7th, 8th, 9th, 11th to 16th, 25th, 30th. Lower Lake region, 6th, 9th to 14th, 25th to 30th. Upper Lake region, 1st to 6th, 9th to 15th, 18th, 19th, 23d to 30th. East Gulf States, 1st to 15th, 19th to 30th. West Gulf States, 1st, 2d, 5th, 6th, 9th to 16th, 20th to 30th. Ohio valley and Tennessee 2d, 6th, 11th to 14th, 19th to 30th. Upper Mississippi and Lower Missouri valleys, 1st to 30th. Eastern Rocky Mountain slope, 4th, 12th, 17th, 18th, 20th to 25th, 29th, 30th. Arizona, 19th, 20th. Oregon, 10th. Washington Territory, 7th.

*Auroras.*—On the 12th the aurora was observed in New Hampshire and Wisconsin, and at Vevay, Ind. Cloudy weather in the Lower Lake region probably prevented observations in that section. On Mt. Washington, at 8 p. m., faint; color, pale straw. Milwaukee, from 8 to 9 p. m., faint; color, pale blue, changing to indistinct orange; altitude about 10°; no motion. Vevay, Ind., until 1:30 a. m. of the 13th; altitude about 45°; faint flashes of white light, alternating with faint pulsations of crimson color. On the 15th auroral displays occurred from Maine to Dakota. Gardiner, Me., not visible at 9, but quite bright from 11 p. m. to 1 a. m. At Montreal, Can., auroral display. Burlington Vt., faint, with distinct dark segment, from 11:15 p. m. to 12:15 a. m. of the 16th. Milwaukee, from 8 to 9 p. m., from N. to W.; faint; altitude about 5°; color well defined blue, shading into orange at the horizon; motionless, except slight tremor in blue light. Escanaba, 9 p. m. to 10:15 p. m.; arch of pale yellow, extending from 45° to 60° azimuth; altitude about 20°. Pembina, 9 p. m., faint, but indistinct, owing to bright moonlight. 16th, displays reported from Vermont to Iowa. Burlington, Vt., from midnight to 12:30 a. m. of the 17th; faint, no definite characteristics. Escanaba, 8:45 p. m., of increasing brilliancy till 9:30 p. m., then gradually fading away; disappeared at 11 p. m.; well defined beams of 2° breadth, reaching an altitude of 45°; color, pale yellow. Thorville, Mich., from 9:30 to 10 p. m., faint; slight movement of rays from E. to W. Monticello, Ia., display at 11 p. m. Isolated cases of displays occurred as follows: Gardiner, Me., 18th, from 1 a. m. to 2:30 a. m.; extent, 45° from N. to NE., resembling the light of the rising moon. Burlington, Vt., 14th, faint from 11:15 p. m. till after midnight; bright arch of light. Burlington, Vt., 27th, from 12 to 12:25 a. m., bright arch, with distinct dark segment, but no streamers. Milwaukee, 11th, 8 to 10 p. m., faint; extending from N. to W.; color, pale blue, shading to indistinct orange at horizon; interspersed with dark hazy streaks, seemingly arising from nucleus of dark segment; no perceptible motion. Pembina, 14th, 9:40 p. m., to morning of 15th, extent from 180° to 255° azimuth; altitude, 15°. One narrow arch, lower edge well-defined, but upper irregular and broken, with motion as of faint phosphorescent flames, rising from a ribbon of half-smothered fire; marked intermittence of brilliancy. Occasionally quick luminous rays shot towards the zenith, with the tremulous motion characteristic of "merry dancers." The peculiarity of the display was the color of the arch, which was uniformly green, varying in shade, but at no time displaying any other variety of color. Independence, Iowa, 5th, auroral display. St. Meinrad, Ind., 3d, 8 to 9 p. m., in NW., faint, extent, 35°, altitude, 20°; 10th, 9 p. m., faint on account of bright moonlight; 11th, 9 to 11 p. m., extent, 120°, altitude, 30°, diffuse arch of yellowish white. Bellefontaine, Ohio, 26th, 9 p. m., seen through rift in clouds. The most southerly station reporting during the month was St. Meinrad, Ind.

## OPTICAL PHENOMENA.

*Solar and Lunar Halos* were not very numerous during the month, but were most frequently observed along the Atlantic coast, in Tennessee and the Ohio valley and in Oregon.

*Mirage.*—New London, Conn., 12th, nearly all day and from 8 to 8:30 p. m.

## MISCELLANEOUS PHENOMENA.

*Earthquakes.*—San Francisco, Cal., 24th, 12:47 a. m.

*Prairie and Forest Fires.*—Pike's Peak, 4th, 7th, 8th, 11th, 14th, 16th, 19th; Santa Fe, 8th to 14th; Colorado Springs, 9th.

*Locusts.*—30th, Hudson, Mich., very numerous one mile west of this place. Umatilla, Or., very nume-